

# N-12<sup>®</sup> Plain End Pipe (per ASTM F2648)

N-12 Plain End pipe (per ASTM F2648) is a gravity-flow, watertight pipe, which has recycled content. Plain End pipe is available in a range of diameters from 4"-60" (100-1500 mm).

N-12 Plain End pipe, which is made from high-density polyethylene (HDPE), delivers superior value, while providing physical strength and structural design that cannot be matched by traditional materials.

## Applications

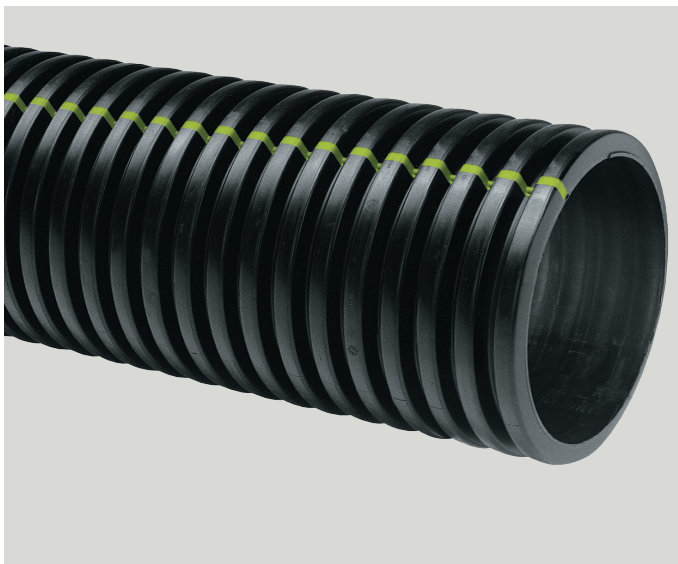
- Culverts/Cross Drains
- Slope/Edge Drains
- Golf, Turf & Recreation
- Foundation Drains
- Retention/Detention Systems
- Storm Sewers
- Parking Lot Drainage
- Mining/Forestry/Industrial

## Features

- Available in 20' (6 m) lengths, resulting in fewer joints - pipe can be field cut to the desired length
- 4"-60" (100-1500 mm) diameters available
- Certified to meet ASTM F2648 requirements
- Superior hydraulics - smooth interior will ensure no debris or sediment build-up
- Structural strength will support H-25 or HL-93 live loads with 12" (300 mm) minimum cover; 60" (1500 mm) requires 24" (600 mm) cover for H-25 or HL-93 live loads

## Benefits

- Easy-to-handle, safe, light weight pipe requires less labor and equipment for faster installation and reduced costs
- Provides superior resistance to chemicals, road salt, motor oil and gasoline - will not rust or deteriorate
- Withstands repeated freeze/thaw cycles and continuous subzero temperature
- Coupling bands are available



# ADS N-12 Plain End Pipe (per ASTM F2648) Specification

## Scope

This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 Plain End pipe (per ASTM F2648) for use in gravity-flow land drainage applications.

## Pipe Requirements

ADS N-12 Plain End pipe (per ASTM F2648) shall have a smooth interior and annular exterior corrugations.

- 4- through 60-inch (100 to 1500 mm) shall meet ASTM F2648
- Manning's "n" value for use in design shall be 0.012.

## Joint Performance

Pipe shall be joined with coupling bands covering at least two full corrugations on each end of the pipe. Standard connections shall meet or exceed the soil-tight requirements of ASTM F2648.

Gasketed connectoins shall incorporate a closed-cell synthetic expanded rubber gasket meeting the requirements of ASTM D1056 Grade 2A2. Gaskets, when applicable, shall be installed by the pipe manufacturer.

## Fittings

Fittings shall conform to ASTM F2306.

## Material Properties

Material for pipe production shall be an engineered compound of virgin and recycled high-density polyethylene conforming with the minimum requirements of cell classification 424420C, (ESCR Test Condition B) for 4- through 10-inch (100 to 250 mm) diameters, and 435420C, (ESCR Test Condition B) for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The design engineer shall verify compatibility with overall system including structural, hydraulic, material and installation requirements for a given application.

## Installation

Installation shall be in accordance with ASTM D2321 and ADS' published installation guidelines, with the exception that minimum cover in trafficked areas for 4- through 48-inch (100 to 1200 mm) diameters shall be one foot (0.3 m) , and for 60-inch (1500 mm) diameters, the minimum cover shall be two feet (0.6 m) in single run applications. Backfill for minimum cover situations shall consist of Class 1 (compacted) or Class 2 (minimum 90% SPD) material. Maximum fill heights depend on embedment material and compaction level; please refer to Technical Note 2.02. Contact your local ADS representative or visit our website [adspipe.com](http://adspipe.com) for a copy of the latest installation guidelines.

## Pipe Dimensions\*

Nominal Diameter													
Pipe I.D. in (mm)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)	42 (1050)	48 (1200)	60 (1500)
Pipe O.D. in (mm)	4.8 (122)	6.9 (175)	9.1 (231)	11.4 (290)	14.5 (368)	18 (457)	22 (559)	28 (711)	36 (914)	42 (1067)	48 (1219)	54 (1372)	67 (1702)

\*Check with sales representative for availability by region. \*\*Pipe O.D. values are provided for reference purposes only, values stated for 12- through 60-inch are ±1 inch. Contact a sales representative for exact values.

